DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-012999
Date Inspected: 14-Apr-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: Bnifacio Daquinag, Tony Sherwood, Bernard Docena — **CWI Present:** ☑ Yes ☐ No

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☐ Yes	☑ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG 1W/2W-D

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as 1W/2W-D, 1W/2W-A 2W/3W-A and the following observations were made:

1W/2W-A

Upon the arrival of the QA Inspector it was randomly observed the American Bridge/Fluor (ABF) welder identified as Mitch Sittinger was setting up to complete a SMAW repair started on the previous day shift. The QA Inspector randomly observed the ABF welder set the SMAW Amps on a piece of scrap metal with the Smith Emery (SE) Quality Control (QC) Inspector Tony Sherwood. The QA Inspector randomly observed the ABF welder to be utilizing 5/32" E7018 low hydrogen electrodes with 155 Amps. The QA Inspector noted the SMAW parameters appeared to be in general compliance with the contract requirements. The QA Inspector noted the previously started repair was approximately 90% completed upon the arrival of the QA Inspector. After several SMAW cover passes the QA Inspector noted the weld repair was completed. After the repair was completed the QA Inspector observed the ABF apprentice welder grind the weld reinforcement flush with the base material. The QA Inspector observed the ABF welder move to another location in weld segment A5 at the intersection of the longitudinal weld. The QA Inspector observed a small ultrasonic testing (UT) rejection had been previously indicated with a distinguishing marking directly on the weld. The QA Inspector noted the area was excavated utilizing a burr bit grinder. After the excavation was completed and ground to a weldable profile, the SE QC Inspector performed magnetic particle testing of the excavation prior to performing the weld repair. The QA Inspector randomly observed and noted no relevant indications were located by the QC Inspector at the time of the testing. The QA Inspector performed dimensional measurement of the excavated area and noted them as follows;

75mm x 30mm x 12mm deep. The QA Inspector noted the same SMAW and grinding of the weld reinforcement was performed as described above. The QA Inspector randomly observed the ABF welder move to a third location where he spent the remainder of the QA Inspectors shift excavating a welding the repair. The UT rejection was located in weld segment A3, after the excavation was complete the QA Inspector performed dimensional measurements of the excavation and Y location, the dimensions are as follows; 300mm x 37mm x 20mm deep (pictured below), Y=4790mm-4490mm. The QA Inspector noted the QC Inspector performed MT of the excavation and noted no relevant indications were located at the time of the testing. The SMAW weld repair was being performed fir the remainder of the QA Inspectors shift.

1W/2W-D
Upon the arrival of the QA Inspector at the above identified location it was observed that a shielded metal arc welding (SMAW) root pass had been previously completed. The QA Inspector randomly observed several locations directly under the longitudinal stiffeners where the CJP groove weld had been welded out root/fill/cover. The QA Inspector noted the areas that were welded out to completion were approximately 100mm on either side of the longitudinal stiffeners a total weld length of 200mm.The QA Inspector randomly observed the SE QC Inspector Bernard Docena was present at the above identified location monitoring and recording the in process production welding.

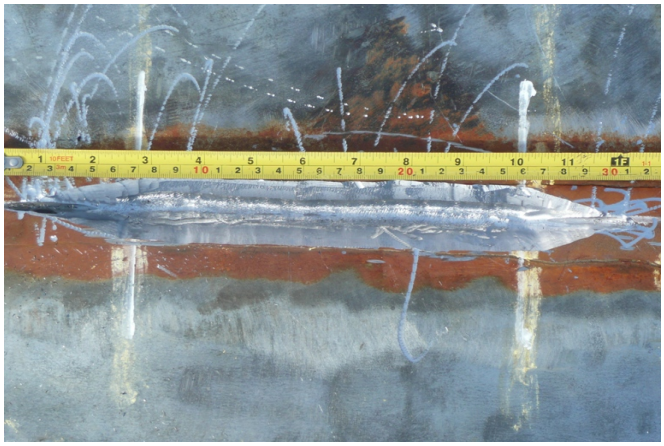
1W/2W-D15
The QA Inspector randomly observed the ABF welder identified as Jordan Hazelaar was performing SMAW between the locations identified above. The QA Inspector randomly observed the ABF welder was performing the SMAW fill/ cover passes between the 200mm segments of weld previously completed under the stiffeners as described above. The QA Inspector noted the SMAW root pass had been previously completed to the QA Inspectors arrival. The QA Inspector randomly observed the ABF welder performing the SMAW fill/cover passes for the duration of the QA Inspectors shift. The QA Inspector noted the ABF welder was utilizing 5/32” E7018 H4R low hydrogen electrodes with 162 Amps. The QA Inspector noted the CJP groove as well as surrounding base material was being maintained above 150°F. The QA Inspector noted the SMAW parameters appeared to be in general compliance with ABF-WPS-D1.5-1040-C. The QA Inspector randomly observed the ABF welder complete the area identified above.

1W/2W-D3
The QA Inspector randomly observed and noted the ABF welder identified as Kenneth Chappell performing SMAW in the same manner described above at the weld segment D3. The QA Inspector noted the ABF welder utilizing the same size E7018 welding electrode with approximately the same amperage. The ABF welder spent the remainder of the QA Inspectors shift performing the SMAW fill passes.

2W/3W-A
Upon the arrival of the QA Inspector at the above identified location, the QA Inspector randomly observed the ABF welders James Zhen and Chun Fai Tsui performing SMAW tack welding of the steel backing (pictured below). The QA Inspector noted the ABF welders were utilizing 5/32” E7018 low hydrogen electrodes with approximately 157 Amps for both welders. The QA Inspector noted the SMAW parameters appeared to be in general compliance with ABF-WPS-D1.5-F1200A. The QA Inspector performed random visual and dimensional testing of the fit up prior to and during the SMAW tack welding. The QA Inspector noted several areas of planar misalignment that exceeds that allowed by AWS D1.5-02 section 3.3.3. The QA Inspector noted the two members’

identified as 2W/3W-A were joined by welding on both sides of the steel backing bar. It was noted no additional fit up tasks would be performed after the members were joined by welding. The QA Inspector noted an incident report was previously written and submitted for approval for the above described issue.

After the SMAW tack welding was completed the QA Inspector randomly observed the ABF welders begin installing the weld tabs or weld run off tabs at the ends of the above described weld joint. The QA Inspector noted the ABF welders were preparing the weld joint for the submerged arc welding root/fill/cover pass to be performed on the Thursday 4/15/10.



Summary of Conversations:

no pertinant conversation was noted on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer